

MISSION CREEK 206
SECTION 206 DRAFT PRELIMINARY RESTORATION PLAN (PRP)

Prepared by
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911 Wilshire Blvd
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1 PROJECT

The Mission Creek 206 Restoration Project is a riparian habitat restoration and concrete channel modification creating a fishway for the federally endangered (Evolutionary Significant Unit) southern steelhead trout, *Oncorhynchus mykiss*, which would enable steelhead to migrate through the channel. The two concrete channels currently prevent steelhead migration. The project is located in the City of Santa Barbara, California. The existing channel is approximately 1.5-mile section of degraded riparian habitat along the upper portion of the Mission Creek Channel. The proposed project is along a section of Mission Creek that is highly degraded due to concrete channelization, the presence of non-native plant species, and trees that provide inadequate shade coverage of the channel.

1.1 Project Authority

The Corps of Engineers (Corps) has the authority, provided under Section 206 of the Water Resources Act of 1986, as amended, to carry out aquatic ecosystem restoration if it is determined that the project would improve the quality of the environment, is in the public interest, and is cost-effective. The primary goal of these projects is ecosystem restoration with an emphasis on projects benefiting biological resources.

2 LOCATION

The Mission Creek 206 Project is located in the City of Santa Barbara, California, about 100 miles northwest of Los Angeles (Fig. 2.1). The drainage area of Mission Creek, comprises about 11.5-square miles, and includes portions of the Santa Ynez Mountains and the narrow coastal plain extending from the Mountains to the Pacific Ocean. The northern portion of Mission Creek originates at about 4,000 feet mean sea level elevation and flows about 8 miles through the City of Santa Barbara to discharge into the Pacific Ocean. The restoration project encompasses a small portion of Mission Creek (approximately 1 ½ miles) located in the downtown area of the City of Santa Barbara, Santa Barbara County (Fig. 2.2). Part of the project site lies on the eastern side of US route 101 between Canon Perdido and Arrellaga Streets (Section 1) and the other section lies between Pedregosa and W. Los Olivos Street (Section 2) (Fig. 2.2). This stretch of Mission creek is contained in a concrete-lined channel that is bounded by residential housing, commercial development, roads, U.S. Highway 101, and park space.

2.1 Project Maps



Figure 2.1: Mission Creek 206 Project is located in the City of Santa Barbara, California, about 100 miles northwest of Los Angeles

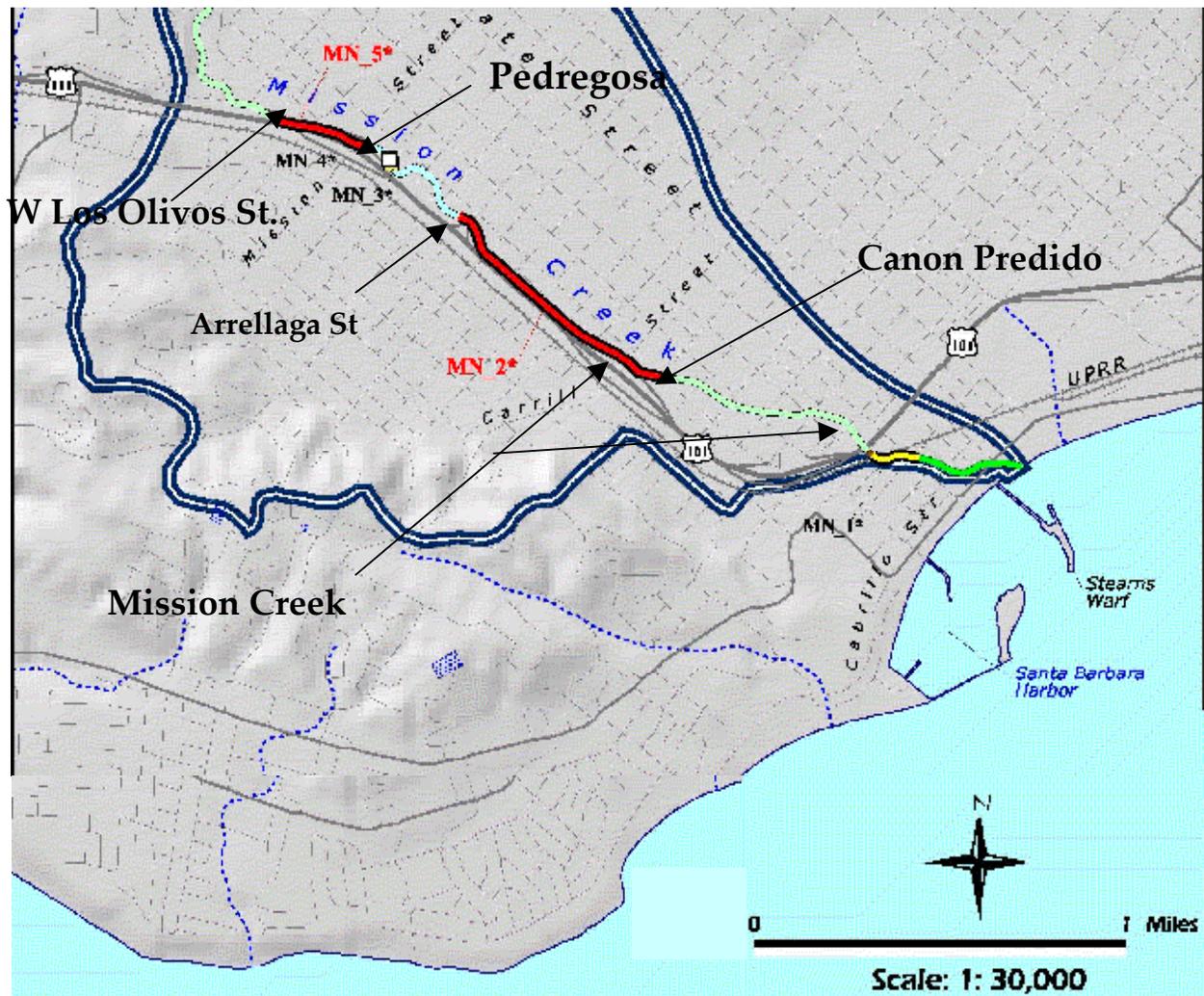


Figure 2.2: Location of concrete channels. The project site lies on the eastern side of US route 101 Section 1 is between Canon Perdido and Arrellaga Streets and [Section 2](#) is between Pedregosa and W. Los Olivos St. (project boundaries shown in red). (Stoecker & Conception Coast Project, 2002)

3 PROPOSED RESTORATION PROJECT DESCRIPTION

3.1 Summary of Proposed Project

The purpose of the proposed project is to improve fish passage for the federally endangered southern steelhead trout Evolutionary Significant Unit (ESU), *Oncorhynchus mykiss*, and restore the degraded riparian habitat along the Mission Creek concrete channel. Human modifications such as flood protection, urban development, and planting of non-native plants along the channels have changed the historical vegetation of Mission Creek. The concrete channel is impassable to steelhead due to the high velocity of water during heavy winter flows and low water flows during dry periods and summer months. Water temperature is higher than normal, due to a lack of optimal riparian habitat along the side of the channel. The proposed project firsts seeks to enhance steelhead trout passage through channel modifications; and secondly, enhance the riparian habitat by introducing a diverse community of native riparian shrubs and trees, which would provide adequate shade to the channel. Restoring the native riparian habitat would be beneficial for both avian species and aquatic species

3.2 Propose Project Purpose

The purpose of the project is to enhance and modify the channel, which would enable steelhead trout migration, both upstream and downstream, and restore approximately 1.5-mile of degraded riparian habitat along upper portion of Section 1 and Section 2. These stretches along Mission Creek are highly degraded due to concrete channelization, development, and pressures in the form of nearby roadways and residential housing and non-native vegetation. Mission Creek concrete channel and riparian improvements would include:

- Channel modification to facilitate the migration of federally endangered southern California steelhead trout. Channel modification would improve steelhead migration by decreasing water velocity with intermittent resting pools allowing fish to rest in the refuges as they travel upstream.
 - Channel modification would also improve steelhead migration by creating low-flow channel, which would provide adequate water depth through the entire length of the channel during migration periods.
- Improving the current riparian habitat, above the concrete channel, by planting native riparian vegetation to increase structural and spatial diversity. In addition, this would provide habitat for native wildlife species, for nesting, foraging, cover from predators and temperature extremes. Bank plantings would also improve the riparian ecosystem functions by providing shade to the creek bed, which would decrease water temperatures through the channel.
- Removing of invasive exotic vegetation and planting of native riparian vegetation on banks above concrete channel.

3.3 Existing Conditions

3.3.1 Concrete Channel Conditions

The Mission Creek is a **concrete** trapezoidal channel with an average bottom width of 7.9 m (26 ft) (Penfield & Smith, 2002) (Fig. 3.1 & 3.2)). **The concrete channels between Canon Perdido and Arrellaga Streets and Pedregosa and W. Los Olivos St** of are approximately 1.5-miles in length. The concrete side slopes extend 2.4 m to 2.7 m (8 to 9 ft) vertically at approximately a 1:1 slope (Penfield & Smith, 2002).

3.3.1.1 Existing Channel Pictures



Figure 3.1: Existing concrete channel along Mission Creek between Canon Perdido and Arrellaga Streets (Stoecker & Conception Coast Project, 2002) (Glowacki NMFS, 2003)



Figure 3.2: Existing concrete channel along Mission Creek between Pedregosa and W. Los Olivos St (Stoecker & Conception Coast Project, 2002) (Glowacki NMFS, 2003)

3.3.2 Status Steelhead Trout and Habitat

Current estimates of the steelhead population in southern California are believed to be less than 1% of its historical size (Stoecker & Conception Coast Project, 2002). Migration barriers such as concrete channelization of the creek for flood protection, urban development, and planting of non-native plants along the channels have change the historical creek and native riparian habitat value along Mission Creek. Barrier such as concrete channels, roads, and culverts also make it difficult to impossible for the steelhead to migrate to spawning grounds. Since the construction of the concrete channel in 1961 (Penfield & Smith, 2002) steelhead trout have been unable to migrate up the channel (Pers comm. Glowacki, 2003). Upstream migrations, through the two channels, during high flow periods is not possible due to accelerated stream velocities, which are sustained throughout the 1.5-miles of concrete channel with no velocity breaks. Furthermore, during low-flow periods migration is also impeded due to the shallow water depth throughout the channel. In order for steelhead to migrate, the water velocities would need to be reduced and increased water depths would need to be maintained during migration periods.

3.3.3 Riparian Habitat Conditions

The riparian habitat that lines the banks of the channel is a combination of both native and non-native trees, shrubs, and herbaceous plants. However, non-native plant species dominate the habitat. The native riparian vegetation is now limited to scattered and isolated trees and large shrubs, including Western sycamore (*Platanus racemosa*), coast live oak (*Quercus agrifolia*), arroyo wouldow (*Salix lasiolepis*), scrub oak (*Quercus cf. dumosa*), and mulefat (*Baccharis salicifolia*). Few, if any, native understory shrubs and low-growing herbaceous species are present along the channel banks.

Several different forms of non-native vegetation have displaced the native riparian gallery forest. Typically ruderal, weed species are prevalent in disturbed areas along the banks, including mustard (*Brassica* spp.), radish (*Raphanus* spp.), fennel, and various grasses (URS Corp. 2000). Many ornamental species have also been planted or have become established following escape and colonization. The ornamental species recorded in January 2003 include eucalyptus, olive, palms, pines, jacaranda, podocarpus, myoporum, bottle brush, bouganvillea, English ivy (*Hedera helix*), and nasturtium. Many of the non-native plants that dominate the bank area are highly invasive species, including giant reed (*Arundo donax*), Castor bean (*Ricinus communis*), pampas grass (*Cortaderia* sp.), ice plant (*Carpobrotus* sp.), and German ivy (*Senecio mikanioides*). Historically, the native riparian vegetation formed a shade canopy over the creek that moderated and often prevented stream temperatures that were lethal to fish and invertebrates (USFWS 1989). Currently the riparian habitat provides little or no shade to the concrete lined creek bottom, creating exceedingly high water temperatures in the summer months. These high water temperatures are not conducive to the health of most naturally occurring aquatic plant and animal species.

3.4 Proposed Project Features

The Los Angeles District, Army Corps Of Engineers, and the City of Santa Barbara propose the following restoration for the Mission Creek concrete channel. The Mission Creek 206 restoration project would consist of the following features: (1) **improvement of steelhead migration** by means of channel modifications, (2) **construction of a low-flow channel**, and (3) **restoration of the upper portion of channel to a native diverse riparian habitat**.

1) **Construct Fishway**

Fish passage could be improved by a modified fishway that would mimic the roughness of a natural stream channel and resting/refuge pools could be placed intermittently in the channel. A fishway would decrease the water velocity and increase water depths allowing the migration of steelhead to suitable spawning grounds further up Mission Creek. Upon approval, various types of fishways would be examined during the feasibility stage as potential solutions. Fishway designs would need to promote steelhead migration. Design considerations that slow water velocities, provide adequate water depth, provide resting pools, and that are virtually self-maintaining and sustainable would be examined during the feasibility phase of the project. Furthermore, the current flood control capacities of the existing channels must be maintained.

a. **Construct Low-flow channel**

A low-flow channel would increase the volume of water throughout the year increasing the probability of adequate water depth for steelhead during migration periods.

2) **Restore riparian habitat**

- a. **Removal of exotic/invasive plant species**
- b. **Planting of diverse native plant species**

Restoring the riparian habitat along the upper portions of the channel would include removal of exotic/invasive species and planting of a variety of native canopy trees, understory, and groundcover plant species along the upper portion of the channel. The tree, understory, groundcover species used in riparian restoration of the upper portion of the channel may include: (trees) Western Sycamore, California Bay Laurel, Coastal Live Oak, Black cottonwood, (understory) Gooseberry, Wild Rose,

Monkeyflower, Canyon Sunflower, (ground cover) Wild Blackberry, Hummingbird sage, and Wood Mint. A healthy native riparian habitat would not only provide creek shade, thereby decreasing water temperature, it would also provide wildlife habitat, nesting, foraging, and biofiltration, improving run-off water quality. Adequate tree canopy cover would improve the water temperature making it more suitable for aquatic species in the channel and downstream of the channel and increase organic material within the channel.

Implementation of the proposed project feature would improve fish passage, reduce water temperatures, decrease water flow velocities, increase water depth, potentially increase aquatic wildlife area and diversity and of terrestrial wildlife, increase foraging potential, and improve the overall quality of biological resources and hydrological quality on Mission Creek along the concrete channel and downstream.

All restoration alternatives would be developed for the proposed project based on cost, biological resource benefits, local sponsor, resource agencies, and environmental groups acceptability of alternatives. A detailed plan would be developed during feasibility study.

3.5 Project Outputs

The objective of the restoration project is to restore degraded riparian habitat along the Mission Creek concrete channel through a combination of project features including modification of the concrete channel to improve/facilitate steelhead migration, provide a sustainable low-flow channel to allow adequate water depth during periods of low-flow. These outputs, or benefits of the project, would be quantified through the planning process and through application of evaluation methodology using a Habitat Evaluation Procedure (HEP) (outputs expressed in Habitat Units).

3.5.1 Importance of Project benefits

Riparian zones are critical habitats in arid regions as many animals use them as migration corridors or seek their refuge, diversity of habitat, and abundant seasonal water. In California, however, more than 91 percent of the original wetland area has been lost, including most of its riparian wetlands as a result of development, water management practices, and agriculture (Mitsch and Gosselink 1993).

The lower portion of Mission Creek is located in a highly urbanized area in the city of Santa Barbara, this section of the creek formerly supported a biologically diverse assemblage of riparian and riverine species that included the now federally listed

California red-legged frog (*Rana aurora draytonii*), least Bell's vireo (*Vireo bellii pusillus*), Southwestern willow flycatcher (*Empidonax traillii extimus*), as well as southern steelhead (*Oncorhynchus mykiss*), which NMFS and CDFG consider the most endangered steelhead Evolutionarily Significant Unit (ESU) in all of California (Stoecker and Conception Coast Project 2002, McEwan and Jackson 1996). Over the past century, however, alteration of riparian and aquatic habitats for flood control and residential development has eliminated most riparian and riverine species. Most notable is the steelhead, which is completely prevented from migrating through the lower portion of Mission Creek by two barriers in the form of concrete flood control channels.

Providing adequate steelhead passage on lower Mission Creek is essential for the recovery of the species to the watershed (Stoecker and Conception Coast Project 2002, McEwan and Jackson 1996). Modification of the approximate 1.5 miles of channel through construction of a fishway and restoration of the surrounding riparian habitat will greatly aid in the recovery of the steelhead population as well as riparian-associated wildlife. Restoration will provide a crucial connection for wildlife to relatively pristine aquatic and riparian habitats upstream. Restoration of this portion of lower Mission Creek will also have high local and regional value, providing a naturalized open space in a sea of urban development.

3.5.2 Habitat Evaluation Procedures (HEP)

The objective of this preliminary analysis is to estimate, quantify, and evaluate existing habitat in the Mission Creek 206 proposed project site. Habitat quality values are assigned by evaluating the quality of riparian vegetation and the stream channel habitat within the study area for without project conditions and conceptual with project conditions. The evaluation of the stream is focused on potential riparian habitat improvement and on the capacity of the channel to support southern steelhead trout (*Oncorhynchus mykiss*) during migration periods as well as other native species that could potentially occur in the project area. This procedure will illustrate that the conceptual project alternatives would provide an increase in habitat value over existing conditions. Following approval of the Preliminary Restoration Plan (PRP), a more detailed, feasibility-level HEP analysis will be initiated during the Detailed Project Report stage. Also, actual project alternatives will be defined as opposed to conceptual project alternatives that are currently being proposed for this HEP analysis. Refer to section 12.1 for the complete HEP analysis.

3.6 Status of LERRDs (Lands, Easements, Right of ways, Relocations, and Disposal Areas)

The Corps has identified approximately 6 acres of concrete channel and riparian habitat that would need to be acquired or construction easements the proposed restoration project. Acquisition or obtaining an easement is the local sponsors (City of Santa Barbara) responsibility. The County of Santa Barbara owns the property within the proposed project area. If the sponsor were required to purchase lands for the project, these costs would be credited in the Project Cooperation Agreement (PCA) to the local sponsor. The estimated cost of land in the project area is between \$10.00- \$5.00/square foot, for an approximate total of \$1,600,000. The Local Sponsor may apply land acquisition costs, if any, to their 35% cost share; however, LERRDs should not exceed 25% of the total project cost (USACE, 1997). If lands were not acquired, the sponsor would provide LERRDs via a third-party agreement with the respective landowner(s). The third-party agreement would establish a conservation deed or easement estate that allows for access (i.e., for maintenance purposes) to the restoration site. The agreement also would ensure that the integrity of the restored area is maintained in perpetuity as described in the Detailed Project Report (DPR). Under this type of agreement, lands are typically contributed to the project at no cost, and the sponsor receives no credit in the PCA for providing LERRDs.

3.7 Other Ongoing Proposed Actions

An ongoing project on the Mission Creek is The Lower Mission Creek Flood Control Project, which is authorized under Section 209 of the Flood Control Act of 1962 (Public Law 87-874, 87th Congress, 2nd session). The flood control Feasibility Study, EIS/EIR was complete October 2000. The project is currently in the Pre-construction Planning & Design (PED). The Mission Creek 206 project and The Mission Creek Flood Control project are not related and are two distinctly different projects. The modifications to the concrete channel should not hold up or impede the Flood Control Project, which would be further addressed in the DPR. Below is a brief description and location of the Mission Creek Flood Control Project.

The Mission Creek Flood Control Project encompasses the area of creek from Cabrillo Blvd. to Canon Perdido St. The proposed rehabilitation of the creek involves: widening of creek banks to increase flood capacity from an 8 year flood event to a 20 year flood event; riparian planting along creek banks; establishment of a natural bottom complete with a natural low-flow channel; and, replacement of various bridges to facilitate a 20-year flood event.

3.8 Alternatives

A range of [alternatives](#) and combinations of project features would be evaluated during the plan formulation phase of the DPR. A preliminary list of these features considered during preparation of the PRP include:

- No Action
- Various types of sustainable fishways would be further investigated during feasibility.
 - [Creation of low-flow channel](#)
 - [Creation of resting pools](#)
- Removal of non-native/invasive plants
- Planting of native riparian vegetation would be further investigated during feasibility

The planning and evaluation of alternatives for this study would utilize a project delivery team approach (PDT). The team comprised of staff from the Los Angeles District Corps representing: [Economics](#), Environmental Resources Branch, Hydrology and Hydraulics Branch, Geotechnical Branch, Engineering Design Branch, and [Real Estate Branch](#). The team is also comprised of staff from the [City of Santa Barbara and Santa Barbara Flood Control District](#). During the feasibility phase extensive coordination would be performed with the resource agencies, local sponsor, and environmental groups to obtain their views and recommendations in developing alternatives. These agencies would be invited to participate in modified HEP meeting. The team would travel together to the study area and spend the required time on-site to document existing conditions, develop preliminary designs, and evaluate the performance and outputs of the [viable alternatives](#). National Marine Fisheries (NMFS), Fish and Wildlife Services (FWS), California Department of Fish & Game, and other representative would accompany the HEP team. These representatives should be familiar with the location, native wildlife, native riparian habitat, restoration goals, sources of raw materials, acceptable construction practices, and past performance of similar structures. [Project related alternatives would be developed to ensure that project alternatives meet the project purpose and objectives, which provide maximum biological benefits in relation to costs. Alternative screening process would be preformed by the study team, alternatives would be eliminated for further considerations that do not meet the project purpose and objective or cost. Viable alternatives would be developed and a recommended plan would be identified.](#) Agreed upon changes to the various project designs would be annotated on the plans and Corps staff would then finalize the plans, & specifications, cost estimates,

environmental documents, and project plan report to proceed forward with project approval.

A Draft Detailed Project Report/Environmental Assessment (DPR/EA) would be released for the public review, after which the DPR/EA would be finalized. Upon finalization of the DPR/EA the document, it would be sent to Corps South Pacific Division (SPD) after for approval, Plan and Specification would be initiated. Construction would be initiated after approval from SDP and local sponsors signs Project Cost Sharing Agreement (USACE, 1997).

Environmental outputs would be quantified modified HEP analysis. Outputs of this analysis are referred to as Habitat Units (HUs) and are defined as the value of an area to a given species of wildlife of habitat type. An interagency evaluation team comprised of, at a minimum, the Corps, U.S. Fish and Wildlife Service, California Department of Fish & Game, and National Marine Fisheries Service would determine the specific protocols for each assessment methodology.

The proposed action and viable alternatives would be evaluated in detail during the DPR phase based on engineering constraints, economic feasibility, and environmental impacts and benefits to determine a plan that optimizes biological outputs per habitat unit cost. The viable alternatives would be evaluated for each environmental resource and a recommended plan would be identified. The document would be written in compliance with the NEPA, California Environmental Quality Act (CEQA) document, and all other applicable environmental regulations. The local sponsor will provide support pursuant to the California Environmental Quality Act (CEQA) using the EA as the CEQA compliance document, which would be integrated into the DPR (USACE, 1997).

3.9 Study Methodologies

During the DPR phase of the proposed project, a technical team would assess existing and future conditions possible using a species-based analysis, physical parameters analysis, or habitat-based analysis techniques. The habitat-based analysis could be used to document quality and quantity of available habitat for selected wildlife species, groups of species, or other habitat elements. The habitat-based analysis would provide information for two generally types of wildlife comparisons: 1) relative value of different areas at the same point in time and 2) the relative value of the same area at different points in time. By combining these two types of comparisons, the impact of proposed or anticipated land and water use changes on wildlife habitat can be quantified.

The habitat-based analysis seeks to assess and quantify existing biological conditions within the study area and to project future conditions with the project or with the alternatives. Wildlife species are assumed to potentially occupy a given habitat if feeding, cover, and reproductive requirements of that species or group are met. The habitat-based analysis is based on the assumption that habitat for selected wildlife species or a Habitat Quality Index (HQI) can describe other habitat elements. HQI values are assigned to the habitat based on vegetation composition, structure and the potential for that habitat to support a diversity of species and/or sensitive species indicative of a healthy, sustainable riparian system. Habitat values calculated for future with-project condition are compared to estimated habitat values for future without-project conditions (No Action) to identify and quantify net environmental benefits and/or adverse effects.

The habitat-based analysis would be conducted using available information supplemented with additional field surveys. This approach involves determining the habitat value for a selected species, group of species, or community type based on knowledge of biological requirements and/or utilization of the habitat relative to conditions existing in the field. Values for multiple factors would be averaged and weighted resulting in an index of habitat quality based on biological indicators of highest interest. The index value (ranging from 0.0 to 1.0) would be multiplied by the area (acres) of available habitat to obtain Habitat Units to be used in comparisons described above. [An incremental analysis would be performed to examine costs to implement each viable and recommended alternative; most likely plan that would be implemented would provide maximum biological benefits in relation to funds spent.](#)

4 VIEWS OF SPONSOR

The City of Santa Barbara supports the proposed restoration project. A letter of support from the city is provided in Attachment. The local sponsors have participated in several meetings and field visits with the U.S. Army Corps of Engineers, and other local interested parties.

5 VIEW OF FEDERAL, STATE, LOCAL AGENCIES, AND ENVIRONMENTAL GROUPS/PUBLIC

For this study the Corps have coordinated our efforts with National Marine Fisheries Services (NMFS), U.S. Fish & Wildlife Services (FWS), California Department of Fish & Game (DFG) and various environmental groups. The Corps has received letters of support urging the Corps South Pacific Division to support this project into the feasibility phase. NMFS “strongly support this project science it address the major impassible barrier to upstream steelhead populations in this watershed”. Southern California Steelhead Coalition states, “The aquatic ecosystem restoration plan for Mission Creek also would contribute substantially to the growing science and engineering of fish passage design and construction in long flood control channels. The result would apply immediately to steelhead recovery efforts in similar situations throughout southern California”. All the letters of support for this proposed project can be found in section 12.5.

6 ENVIRONMENTAL COMPLIANCE REQUIREMENTS

An Environmental documents would be prepared in compliance with the NEPA/CEQA, as amended and in conjunction with the development of the DPR. The Draft EA would be released for a 30-day public review and comment period. As required by NEPA, all appropriate Federal and State statutes would be complied with, including but not limited to, Endangered Species Act (ESA), Fish and Wildlife Coordination Act (FWCA), Clean Water Act (CWA), Clean Air Act (CAA), and National Historic Preservation Act (NHPA). The U.S. Fish and Wildlife Service would be coordinated with and participate in plan formulation and biological impact analyses, pursuant with the FWCA, to ensure project implementation results in no effects on Federally-listed species (potentially) occurring in the project area, pursuant with the ESA.

Corps would:

- a. Prepare environmental documentation pursuant with the NEPA/CEQA, and Corps Regulation ER-200-2
- b. Coordinate and request U.S. Fish and Wildlife Service participation for preparation of a Coordination Act Report, pursuant with the Fish and Wildlife Coordination Act.
- c. Prepare Section 404(b)(1) analysis and obtain Section 401 waiver or [cification](#) (for the California Regional Water Quality Control Board) pursuant with the CWA.
- d. Determine air impacts and file appropriate documentation to show conformity with the CAA.
- e. Conduct all appropriate field investigations to determine the site's potential to contain National Register Eligible cultural resources and coordinate findings with the State Historical Preservation Office (SHPO), pursuant with the NHPA.

Local Sponsor would:

- a. Provide support pursuant to the California Environmental Quality Act (CEQA) using the EA as the compliance document.
- b. Provide, and acquire, if necessary, all necessary lands and easements to access and maintain project lands and features.

6.1 Federal Statutes and Executive Orders

- Clean Water Act of 1977 (22 U.S.C. 1251 et seq., Public Law 92-500)
- Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901-3932)
- Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), as amended
- Executive Order 11988 Floodplain Management
- Executive Order 11990 Protection of Wetlands
- Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661-666c)
- Fish and Wildlife Coordination Act of 1934, as Amended
- National Environmental Policy Act of 1969 (42 U.S.C. 432 - 4347)
- North American Wetlands Conservation Act (16 U.S.C. 4401 et seq.)
- Rivers and Harbors Act of 1899
- Water Resources Development Act (various Public Laws)
- Wild and Scenic River Act (16 U.S.C. 1271 et seq.)
- Environmental Justice (ER-200-2)
- Executive Order 12898

7 SCHEDULE

The proposed project is scheduled for completion in a total of approximately 36- 44 months.

TASK	DATE
Initiate PRP	December 2002
Complete PRP	May 2003
SPD Approval	June 2003
Initiate Feasibility Study (Env. Doc. DPR)	June 2003– July 2003
Complete Draft DPR	June 2004 – August 2004
Complete DPR	August 2004 – January 2005
SPD DPR Approval	February 2005
Initiate P & S/Acquire LERRDs Draft PCA	March 2005
SPD PCA Approval	July 2005
Complete Plans and Specs/LERRDs	September 2005 - October 2005
Execute PCA	November 2005
Advertise	December 2005
Open Bids	January 2006
Award Contract Construction	February 2006
Initiate Construction	March 2006
Complete Construction	November 2006

Note: The schedule is tentative and is dependent on the complexity of the proposed project.

8 QUALITY CONTROL PLAN

STUDY MANAGER: Shannon Dellaquila

PROJECT MANAGER: Ed Louie

TECHNICAL REVIEWER LEADER:

PRELIMINARY RESTORATION PLAN (PRP) PREPARED BY: Shannon Dellaquila

DETAILED PROJECT REPORT PREPARED BY:

1. The Mission Creek 206 Study Team has adopted the SPL generic Quality Control Plan for this ecosystem restoration study. This plan has been adopted to ensure that a quality planning document with related products would be produced during the study.
2. To date, the Study Team consists of the following members:

Shannon Dellaquila	Environmental Study Manager
Lisa Snyder	Biologist
Joe Lamb	Economics
Norma Halisy	Budget Analyst
Greg Boghossian	Civil Engineering
Minh Ly	Structural Engineering
Glenn Mashburn	Hydraulics
Van Crisostomo	Hydraulics
James Cheih	Hydrology
Robert Walker	Geotechnical
Nate Govan	Cost Estimating
Jack Malone	Regulatory
Pete Garcia	Real Estate

3. The currently scheduled major milestones for the study are:

Initiate DPR EA/FONSI	June 2003 - July 2003
Final DPR EA/FONSI	August 2004 – January 2005
DPR & Draft PCA Approval	September 2004 – February 2005
Initiate Plans & Specs	March 2005
Plans & Specs Completion	September 2005
Execute PCA	November 2005
Award Contract	February 2006
Complete Construction	November 2006

The Independent Technical Review of the Project Study Plan for Mission Creek, Section 206, Aquatic Ecosystem Restoration Project, Santa Barbara, California shall be conducted in compliance with CESPL OM 1105-1-2, dated 25 January 2000, "Quality Management Plan, Appendix A, Planning Subplan, Attachment H, Generic QCP Models."

The Quality Control Plan for the Mission Creek Section 206, Aquatic Ecosystem Restoration Project, Santa Barbara, California is approved by Chief, Planning Division in accordance with the CESPL OM 1105-1-2 on April 10, 2003.

RUTH B. VILLALOBOS
Chief, Planning Division

9 LIST OF PREPARES AND REVIEWERS

9.1 Prepares

Name	Organization	Background
Shannon Dellaquila	U.S. Army Corps of Engineers	B.S. Marine Biology
Lisa Snyder	U.S. Army Corps of Engineers	B.S. M.S. Biology

9.2 Reviewers

Name	Organization	Role
Shannon Dellaquila	U.S. Army Corps of Engineers	Environmental Coordinator/Study Manager
Lisa Snyder	U.S. Army Corps of Engineers	Biologist
Jack Malone	U.S. Army Corps of Engineers	Regulatory
Joy Jaiswal	U.S. Army Corps of Engineers	Chief of Eco-Planning section
Paul Rose	U.S. Army Corps of Engineers	Chief of Environmental Resources Branch
Robert Walker	U.S. Army Corps of Engineers	Geotechnical
Greg Boghossian	U.S. Army Corps of Engineers	Civil Engineering
Glenn Mashburn	U.S. Army Corps of Engineers	Hydraulics
Van Crisostomo	U.S. Army Corps of Engineers	Hydraulics
James Cheih	U.S. Army Corps of Engineers	Hydrology
Minh Ly	U.S. Army Corps of Engineers	Structural Engineering
Jack Malone	U.S. Army Corps of Engineers	Regulatory
Nate Govan	U.S. Army Corps of Engineers	Cost Estimating
Pete Garcia	U.S. Army Corps of Engineers	Real Estate
Pat Kelly	City of Santa Barbara	City Engineer
Kevin Roberson	City of Santa Barbara	Project Engineer

Michael Berman	City of Santa Barbara	Project Planner/Environmental Analyst
Jill Zachary	City of Santa Barbara	Creeks Restoration Manager
Karl Treiberg	Santa Barbara County Flood Control	Environmental Planner
Tom Fayram	Santa Barbara County Flood Control	Deputy Public Works Director
Dave Pritchett	So. Cal Steelhead Coalition	Fisheries Support
Brian Trauntwein	Environmental Defense Council	Environmental Analyst
John Grey	URS	City Consultant
Bruce Barnwoth	Penfield & Smith Engineer	City Consultant
Sharyn Main	City Creeks Advisor Committee	Creeks Advisor
James Stadarus	Conception Coast Project	Fisheries/Creeks Advisor
Maurico Cardenas	Cal Dept of Fish & Game	Fisheries/Creek Advisor
Mary Larson	Cal Dept of Fish & Game	Fisheries/Creek Advisor
Natash Lohmus	Cal Dept of Fish & Game	Fisheries/Creek Advisor
Trudy Ingram	Cal Dept of Fish & Game	Fisheries/Creek Advisor
Stan Glowacki	National Marine Fisheries Service	Fisheries/Creek Advisor
Matthew McGoogan	National Marine Fisheries Service	Fisheries/Creek Advisor

10 FINANCIAL DATA

10.1 Project Related Costs

Table 10.1 Project Related Costs

	Totals w/ LERRDs	Totals w/o LERRDs	Non-Fed	Fed	FY03	FY04	FY05	FY06
DPR ¹	\$412K	\$412K	\$0	\$412K	\$206K	\$206K	\$0	\$0
P&S ¹	\$200-\$350K	\$200-\$350K	\$0	\$200-\$350K	\$0	\$0	\$200 - 350K	\$0
Land Acquisition	\$1,000-\$1,600K	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Const.	\$2,500-\$4,377	\$2,500-\$5,977	\$850-\$2091K	\$1,625-\$3,885K	\$0	\$0	\$0	\$2,500-\$5,977K
Totals	\$4,112-\$6,750K	\$3112- \$6,739K	\$850-\$2091K	\$2,237-4647K	\$206K	\$206K	\$200- 350K	\$2,500-\$5,977K
<p>Notes: ¹DPR and Plans and Specifications are initially federally financed, and costs distributed as part of the non-federal share of project costs during project implementation, after PCA is signed.</p>								
Non-Federal Requirements: LERRDs:					\$1,000,00 - 1,600,000			
If LERRDs are use as in-kind credit, Cash					\$750,000- \$150,000			
If LERRDs are not used as in-kind credit, Cash:					\$1,089,000 - 1,750,000			
Work in kind:					\$0			
Annual OMRRR:					\$10,000 – 50,000			

10.2 Federal allocations to date

Preliminary Restoration Plan	\$ 10,000
Detailed Project Report	\$ 412,600
Plans and Specifications	\$
Construction	\$
Total Project Costs	\$ 6,750,000

10.3 Non-Federal Requirements

LERRDs:	\$ 1,600,00
Cash:	\$ 1,750,000
Work-in-kind	\$ 0
Annual OMRR&R:	\$ 10,000 – \$50,000

10.3.1 Operations and Maintenance Repair Replacement & Requirements (OMRR&R)

Maintenance requirements have been coordinated with the local sponsor. As necessary, the local sponsor will work with County Flood Control District to resolve the appropriate easements and rights-of-way for maintenance purposes. The OMRR&R is a local responsibility and would be conducted by the local sponsor. The sponsor would conduct and/or assist in resolving all necessary maintenance efforts to fulfill Section 206 of the Water Resources Development Act (WRDA) requirements, to be further defined in the DPR. After the project is constructed, the Local Sponsor is responsible for 100% of the OMRR&R.

10.4 Cost Estimate for Detailed Project Report (DPR)

Table 10.4 : Cost Estimate for Detailed Project Report

Work Element	Estimated Cost
Planning Division	
Environmental Study Management	\$ 40,000
Economics	\$ 35,000
PPMD	\$ 5,000
Independent Technical Review	\$ 20,000
Administrative/Supervisory Support	\$ 65,100
<u>Subtotal</u>	\$ <u>165,100</u>
Environmental Resources	
NEPA Documentation/Analysis/ Environmental Coord	\$ 60,000
Biological Inventory/Habitat Analysis	\$ 20,000
Biological Support	\$ 7,000
Coordination Act Report - FWS	\$ 15,000
Cultural Resources Assessment	\$ 15,000
<u>Subtotal</u>	\$ <u>87,000</u>
Real Estate	
Gross Appraisal	\$ 12,000
Real Estate Plan	\$ 12,000
<u>Subtotal</u>	\$ <u>24,000</u>
Engineering Management	
Hydrology and Hydraulic	\$ 100,000
Engineering and Design	\$ 35,000
Cost Estimating	\$ 15,000
Surveys and Mapping	\$ 5,000
Geotech	\$ 10,000
<u>Subtotal</u>	\$ <u>165,000</u>
TOTAL ESTIMATE for DPR	\$ 471,100

10.5 Cost Estimate for Plans& Specifications (P & S)

Table 10.5: Cost Estimate For Plans And Specifications

Work Element	Estimated Cost
Planning Division	
Study Management	\$ 20,000
PCA Development	\$ 15,000
Administrative/Supervisory Support	\$ 14,400
<u>Subtotal</u>	\$ 49,400
Environmental Resources	
Biological Support	\$ 8,000
Environmental Specifications	\$ 5,000
<u>Subtotal</u>	\$ 13,000
Engineering Management	
Hydrology and Hydraulic	\$ 25,000
Engineering and Design P & S	\$ 200,000 – \$250,000
<u>Subtotal</u>	\$
TOTAL ESTIMATE for P & S	\$ 287,400- 362,400

11 REFERENCE:

McEwan, D. and T.A. Jackson. 1996. Steelhead Restoration and Management Plan for California. Prepared for the California Department of Fish and Game.

Mitsch, W.J. and J.G. Gosselink. 1993. Wetlands. John Wiley, New York, NY. 722 pp.
Penfield & Smith, 2002. Mission Creek Channel Modification Analysis. City of Santa Barbara

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http://www.conceptioncoast.org/all_steelhead_report_final2002-06-21.pdf

URS Corporation. 2000. Creek Inventory Assessment Study. Prepared for the City of Santa Barbara Parks and Recreation Department.

USACE September 30, 1997. EC 1105-2-214 PROJECT MODIFICATIONS FOR IMPROVEMENT OF THE ENVIRONMENT and AQUATIC ECOSYSTEM RESTORATION
<http://www.usace.army.mil/inet/usace-docs/eng-circulars/ec1105-2-214/entire.pdf>

U.S. Fish and Wildlife Service. 1989. The Ecology of Riparian Habitats of the Southern California Coastal Region: A Community Profile. Biological Report 85(7.27). Prepared by M. Faber, E. Keller, and B. Massey.

12 APPENDICES

12.1 Habitat Evaluation Procedures (HEP)

The objective of this preliminary analysis is to estimate, quantify, and evaluate existing habitat in the Mission Creek 206 proposed project site. Habitat quality values are assigned by evaluating the quality of riparian vegetation and the stream channel habitat within the study area for without project conditions and conceptual with project conditions. The evaluation of the stream is focused on potential riparian habitat improvement and on the capacity of the channel to support southern steelhead trout (*Oncorhynchus mykiss*) during migration periods as well as other native species that could potentially occur in the project area. This procedure will illustrate that the conceptual project alternatives would provide an increase in habitat value over existing conditions. Following approval of the Preliminary Restoration Plan (PRP), a more detailed, feasibility-level HEP analysis will be initiated during the Detailed Project Report stage. Also, actual project alternatives will be defined as opposed to conceptual project alternatives that are currently being proposed for this HEP analysis.

12.2 Methodology

Representatives from the Corps, National Marine Fisheries Service, the City of Santa Barbara, and the Southern California Steelhead Coalition worked as a team, using a “modified” Habitat Evaluation Procedure (modified HEP) to rate habitat quality and quantity. In modified HEP, habitat quantity is usually an expression of area (acres, hectares, etc.) and the measure of quality is expressed as a Habitat Suitability Index (HSI). The HSI is presented as a value between 0 and 1.0 (0 being the worst condition and 1.0 being the best condition of the variable being measured), and is a measure of the quality of a habitat when compared to optimal conditions. Multiplying the area of the site by the HSI produces a habitat value measure termed Habitat Units (HU’s), which are the “currency” of subsequent analyses. For example, if an analysis indicates that 10 acres of sycamore trees have an HSI of 0.5 for providing shade to the stream channel, then there are 5 sycamore HU’s associated with the site, and it might be considered comparable, in that respect, to a 5-acre site of optimally (HSI = 1.0) shaded habitat for steelhead trout and other riverine organisms.

We analyzed general habitat values for the stream channel and several types of native riparian plants likely to occur in the area, including native trees, native understory shrubs and small trees, and low growing native herbaceous species as well as non-native vegetation (Table 1). In addition, we analyzed the functions of the stream channel by assessing the capacity of the habitat to support aquatic organisms, including steelhead migrating to spawning grounds as adults or to the ocean as smolts. The percent area of the different habitat types was determined by using existing data from the city of Santa Barbara, aerial photographs, maps, and by walking the site. The HSI (between 0 and 1.0) was determined for the various habitat types by using best professional judgment. Specific procedures are outlined below.

12.2.1 Determination of habitat area

During site visits the HEP team estimated the existing area of various habitat types occurring in the study site, including native canopy trees, native understory plant species, native herbaceous plants, non-native plant species, and the concrete stream channel. Habitat types were determined by using maps, aerial photographs, existing data from the City of Santa Barbara, and by walking the site.

12.2.2 Existing Site Conditions

At the time of this analysis (January 2003), the approximate area of various habitat types is as follows:

Habitat Type	Area m ² (Ac)
Stream channel	13647 m ² (3.37)
Native canopy trees	2128 m ² (0.526)
Native understory species (shrubs/small trees)	237 m ² (0.058)
Native low-growing herbaceous species	0.0
Exotic species (80%)	9458 m ² (2.34)
TOTAL:	25470 m² (6.294)

12.2.3 Proposed Future Site Conditions

The goal of the project is to modify the existing concrete-lined channel in Mission Creek between Canon Perdido and Arellaga Streets (stream channel 1) and between Pedregosa and W. Los Olivos (stream channel 2) to encourage fish passage for steelhead trout and to restore the riparian corridor through installation of native bank plantings and removal of invasive, exotic species. The table below conceptually represents the habitat area distribution 50 years after construction is complete. Native canopy tree species, which provide the greatest shade to the stream channel, would predominate, but native understory shrubs and herbaceous species would form dense clusters of vegetation for support of the riparian wildlife community. Further investigations will be completed to develop the best restoration plan for the study site.

Habitat Type	Area m ² (Ac)
Stream channel	13647 m ² (3.37)
Native canopy trees (40%)	4729.2 m ² (1.17)
Native understory species (shrubs/small trees) (30%)	3546.9 m ² (0.88)
Native low-growing herbaceous species (20%)	2364.6 (0.58)

Exotic species (10%)	1182.3 m ² (0.29)
TOTAL:	25470 m² (6.29)

12.2.4 HSI Values Assigned

The Mission Creek modified HEP is a habitat-based assessment that considers all native aquatic and terrestrial wildlife species that could potentially occur in the project area. The “target” species that this habitat could support include various invertebrate, bird, and fish species, such as steelhead. The initial analysis, carried out on 24 January 2003, was a simplified investigation of the aquatic and riparian habitat types and general habitat features. Future analyses during the feasibility phase (DPR) could incorporate more specific factors that influence habitat value for native wildlife species, including habitat quality, plant density and diversity, cover, edge effect, percentage of exotic/invasive plant species, and disturbance. Additional factors that effect stream inhabitants may be examined during the DPR stage of the project, including riparian canopy cover, stream flow (velocity), water depth and abundance of pools, and in-stream cover (refuge). Each of these factors will aid in determining the value provided by each habitat type. For example, the habitat value provided by native canopy trees is determined by the height and density of the vegetation; the diversity of tree species (diverse assemblages of plant species support greater animal diversity); and by the potential to provide wildlife species with habitat for nesting, foraging, or cover from predators and temperature extremes. All factors (e.g., species diversity or shade cover) are assigned a separate HSI value, based on professional judgment, visual estimates, and observations of wildlife use, rather than detailed measurements of various parameters. These values can then be averaged to determine the existing HSI for canopy trees.

Vegetation Habitat Suitability Index	Vegetation Conditions
1.0	100% Undisturbed native coastal riparian vegetation
0.8	80% Undisturbed native riparian vegetation. 20% exotic vegetation or unvegetated disturbed areas
0.6	60% native species, 40% of area is barren ground or vegetated with exotic species
0.4	40% native species, exotic species, barren ground, and hardened revetments, dominate the area (60%)
0.2	Highly disturbed with few native species (20%). Heavily dominated by exotic species and bare ground (80%). Banks lined with concrete revetments

0.0	No native species. Area supports 100% exotic species and/or bare ground. Banks lined with concrete revetments
-----	--

Stream Channel Habitat Suitability Index	Channel Conditions
1.0	Excellent; habitat functioning as in historical conditions, and able to support robust populations of aquatic species including pertinent steelhead lifestages. Native trees provide optimal shade and in-stream cover.
0.8	Good; surface flows and water velocities in low-flow channel provide optimal seasonal habitat steelhead and other species during all years. Native trees and a limited number of exotic trees provide sufficient shade and in-stream cover.
0.6	Fair; surface flows and water velocities in low-flow channel provide adequate seasonal habitat during most years. Native trees and a large number of exotic trees provide a fair amount of shade and in-stream cover.
0.4	Poor; surface flows and water velocities in low-flow channel provide seasonal habitat 40% of years. A mix of native and exotic trees provide limited shade and in-stream cover
0.2	Very Poor; water velocities are too great and/or surface flows are insufficient to support native species most years. Canopy trees that are predominately non-native, provide little or no shade and in-stream cover.
0.0	Inaccessible; water velocities are too great and/or surface flows are insufficient to support any native species at any time. No vegetation is present to provide any shade or in-stream cover.

12.2.5 Future

Projections were made of future conditions within the project site including the “no action” alternative. Without project conditions were evaluated first with existing conditions (Year 0). An additional “target year” at Year 50 was also considered, but target Year 5 was not evaluated as no significant changes are expected to occur within the study area between Year 0 and Year

5. Conceptual with-project conditions were evaluated beginning at Target-Year 0, prior to construction, Target year 5, completion of construction, and Target-Year 50, well established diverse riparian habitat. These particular target years were chosen to reflect potentially substantial changes in habitat value due to growth of new vegetation and improvements in stream channel conditions. Several assumptions were made during this analysis regarding potential changes in acreage and habitat quality, as discussed in the "Results" section.

12.2.6 Calculation of Habitat Units

The average HSI value assigned to each habitat type was multiplied by the area (m²) of that habitat type:

$$\{HU = HSI_{avg} \times Area (m^2)\}$$

The habitat "units" or value provided by each habitat type were then added to determine the total value (Total HU) of all habitat types within the site, at each target year:

$$\text{Total HU} = \text{HU}(\text{stream channel}) + \text{HU}(\text{native trees}) + \text{HU}(\text{native understory shrubs}) + \dots$$

As discussed above, the existing habitat areas were based existing data from the city of Santa Barbara, aerial photographs, maps, and by walking the site. Future areas of each habitat type are assumptions based on a conceptual design for what the future project may resemble.

12.3 Results

12.3.1 Summary of Without-Project Habitat Units

The Total HU's are summarized below:

“Without-Project Conditions”:

Target Year 0 (Existing conditions)	3202 HU's
Target Year 50	1791 HU's

12.3.2 Summary of With-Project Habitat Units

The Total HU's are summarized below:

“With-Project Conditions”:

Target Year 5 (Construction complete)	15938 HU's
Target Year 50	19431 HU's

12.4 HEP Tables

Table 12.1. Preliminary Estimate of area (m²) and habitat quality, in habitat units, of Mission Creek riparian and stream channel habitats for with-project and without project conditions.

Habitat Type	Rating Indicators							
	Without Project Conditions				With-Project Conditions			
	Target Year 0		Target Year 50		Target Year 5		Target Year 50	
	Area	HUs	Area	HUs	Area	HUs	Area	HUs
Stream channel	13647	2729	13647	1365	13647	9553	13647	10918
Native canopy trees	2128	426	2128	426	4729	2838	4729	3783
Native understory species (shrubs/small trees)	237	47	0.0	0.0	3547	2128	3547	2838
Native low-growing herbaceous species	0.0	0.0	0.0	0.0	2365	1419	2365	1892
Exotic species	9458	0.0	9695	0.0	1182	0.0	1182	0.0
Total	25470	3202	25470	1791	25470	15938	25470	19431

Table 12.2. Estimated without project habitat conditions (existing conditions) of Mission Creek for target year 0.

Habitat Types	Area (m ²)	Habitat Suitability Index	Habitat Units
Stream channel	13647	0.2	2729
Native canopy trees	2128	0.2	426
Native understory species (shrubs/small trees)	237	0.2	47
Native low-growing herbaceous species	0.0	0.0	0.0
Exotic species	9458	0.0	0.0
Total	25470		3202

Table 12.3. Estimated future conditions of Mission creek without project for target year 50.

Habitat Types	Area (m ²)	Habitat Suitability Index	Habitat Units
Stream channel	13647	0.1	1365
Native canopy trees	2128	0.2	426
Native understory species (shrubs/small trees)	0.0	0.0	0.0
Native low-growing herbaceous species	0.0	0.0	0.0
Exotic species	9695	0.0	0.0
Total	25470		1791

Assumptions:

1. The 0.1 decrease in Stream channel Habitat Suitability is due to expected increases in water temperature and a decrease in shade and in-stream cover. These losses are expected from death or removal of large canopy trees.
2. The 237 m² of native understory shrubs/small trees would be lost to exotic, invasive species.

Table 12.4. Estimated Mission Creek with-project conditions for target year 5 (completion of construction).

Habitat Types	Area (m ²)	Habitat Suitability Index	Habitat Units
Stream channel	13647	0.7	9553
Native canopy trees	4729.2	0.6	2838
Native understory species (shrubs/small trees)	3546.9	0.6	2128
Native low-growing herbaceous species	2364.6	0.6	1419
Exotic species	1182.3	0.0	0.0
Total	25470		15938

Assumptions

1. Target-year 5 after construction is completed
2. The vegetation is fairly immature and do not provide the optimal benefit to wildlife species.

Table 12.5 Estimated with-project conditions of Mission Creek for target year 50.

Habitat Types	Area (m ²)	Habitat Suitability Index	Habitat Units
Stream channel	13647	0.8	10918
Native canopy trees	4729.2	0.8	3783
Native understory species (shrubs/small trees)	3546.9	0.8	2838
Native low-growing herbaceous species	2364.6	0.8	1892
Exotic species	1182.3	0.0	0.0
Total	25470		19431

12.5 Letter of Intent

12.6 Letters of support



February 5, 2003

Ms. Shannon Dellaquila
 Environmental Branch
 U.S. Army Corps of Engineers
 P.O. Box 532711
 Los Angeles, CA 90053

RE: LOWER MISSION CREEK 206 PROJECT (SANTA BARBARA)

Dear Ms. Dellaquila,

California Trout, Inc. is a 5,000-member watershed conservation group working statewide since 1972 to protect and restore wild trout and steelhead and the waters in which they live. As a CalTrout Board member for the last 10 years, and living in Santa Barbara, I have taken an active interest on behalf of our organization in the revitalization of natural stream processes in Mission Creek.

In March of 2000, I videotaped a pair of adult ocean-run steelhead spawning in the 700 block of Bath Street in Mission Creek, one of the most urbanized of its reaches (video available upon request). It became clear to me at that time that *all* of Mission Creek, not just the upper watershed, is potential spawning and rearing habitat for the federally-listed (endangered) Southern Steelhead, and I spoke with a Corps biologist working on the project EIS about this incident just after the fact.

Mission Creek is one of the few urban creeks in southern California that still supports steelhead. Resident rainbow /steelhead trout are still numerous in the middle and upper reaches of the watershed. Steelhead still attempt to migrate from the ocean to spawn, as noted above. Providing safe passage and improved spawning/rearing habitat in the lower reaches of Mission Creek is critical to ensure the survival of this endangered species. The Southern ESU (evolutionarily significant unit) of west coast steelhead carries perhaps the most important component of the species in the face of potential global warming: adaptations to warmer water and more frequent intermittency of stream flow. For these reasons the Subject Project is critical to complete in a timely and fish-friendly fashion.

CalTrout will continue to monitor the Lower Mission Creek 206 Project and to assist in any way we can to ensure that South Coast creeks are restored to proper ecological function.

Sincerely,

CRAIG FUSARO, PhD

Bay Area Office: 870 Market Street, Suite 1185 • San Francisco, CA 94102 • (415) 392-8887
 Fax: (415) 392-8895 • <http://www.caltrout.org>



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Ms. Shannon Dellaquila
Environmental Branch
U.S. Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053

February 5, 2003

RE: Lower Mission Creek 206 Project (Santa Barbara)

Dear Ms. Dellaquila,

The Community Environmental Council (CEC) is a 501(C) (3) community-based organization formed in 1970 to conduct environmental, educational and scientific programs for residents of Santa Barbara County, the Central Coast, and beyond. Part of our work since the mid-1990's has included enhancing watershed resources and improving the water quality of southern Santa Barbara County creeks, wetlands and the ocean. We are now actively involved in restoration projects in the following South Coast watersheds: San Jose Creek, Arroyo Burro, Mission, and Carpinteria. Our watershed education efforts through our South Coast Watershed Resource Center, our Green Schools Program and our Creek Watchers Program actually extend to the whole of Santa Barbara County.

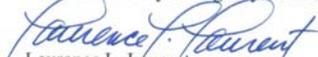
CEC has also been an original member of the South Coast Watershed Alliance (SCWA) since its formation in 1998. SCWA's purpose is provide a unified voice for watershed organizations and to educate the community and decision makers about watershed stewardship and to advocate for the restoration and enhancement of creeks and wetlands to improve water quality, habitats and ecosystem functions.

CEC joins SCWA in supporting proposed efforts to enhance the habitat of Mission Creek and to facilitate fish passage through the concrete channels in the lower watershed. We strongly encourage the U.S. Army Corps of Engineers to provide funding and continue to work with the City of Santa Barbara to implement as a high priority the **Lower Mission Creek 206 Project**.

Mission Creek is one of the few urban creeks in southern California that still supports steelhead. Resident rainbow /steelhead trout are still numerous in the mid to upper reaches of the watershed and steelhead still attempt to migrate from the ocean and spawn. Providing safe passage and an improved habitat in the lower reaches of Mission Creek will ensure the survival of this and other species.

CEC will continue to participate in the Lower Mission Creek 206 Project and to assist in any way we can to ensure that South Coast creeks are restored as close to their natural state as possible so they will support, once again, healthy populations of steelhead -- the true indicator of watershed health in this region.

With thanks for your Agency's commitment to healthy watersheds,


Laurence L. Laurent,
CEO

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February 5, 2003

Ms. Shannon Dellaquila
Environmental Branch
U.S. Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053

Re: Lower Mission Creek 206 Project (Santa Barbara)

Dear Ms. Dellaquila,

I submit this letter on behalf of Santa Barbara Channelkeeper. Channelkeeper is a non-profit organization dedicated to protecting and restoring the Santa Barbara Channel and its watersheds. We support efforts to enhance the habitat of Mission Creek and to facilitate fish passage through the concrete channels in the lower watershed. We strongly encourage the U.S. Army Corps of Engineers to provide funding and continue to work with the City of Santa Barbara to implement as a high priority the Lower Mission Creek 206 Project.

Mission Creek is one of the few urban creeks in southern California that still supports steelhead. Resident rainbow/steelhead trout are still numerous in the mid to upper reaches of the watershed and steelhead still attempt to migrate from the ocean and spawn. Providing safe passage and an improved habitat in the lower reaches of Mission Creek will help protect steelhead and other species.

SCWA and its member organizations will continue to participate in the Lower Mission Creek 206 Project and to assist in any way we can to ensure that South Coast creeks are restored to their natural state and teeming with life.

Cordially,

Drew Bohan
Executive Director



PROTECTING AND RESTORING THE SANTA BARBARA CHANNEL AND ITS WATERSHEDS

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February 5, 2003

Ms. Shannon Dellaquila
 Environmental Branch
 U.S. Army Corps of Engineers
 P.O. Box 532711
 Los Angeles, CA 90053

RE: Lower Mission Creek 206 Project (Santa Barbara, California)

Dear Ms. Dellaquila,

The Environmental Defense Center (EDC) is a non-profit, public interest environmental law firm working to protect and enhance natural resources and environmental conditions in Santa Barbara, Ventura and San Luis Obispo Counties. Formed in 1977, the EDC is the only public interest environmental law firm in this region. Since 1989, we have worked to preserve and restore Lower Mission Creek in the City of Santa Barbara.

EDC wholeheartedly supports projects that will enhance the habitat of Mission Creek and restore conditions to enable the highly endangered southern steelhead to migrate upstream to spawning and rearing areas. We strongly encourage the U.S. Army Corps of Engineers to provide funding and continue to work with the City of Santa Barbara to implement the **Lower Mission Creek 206 Project**. It is a very high priority for this community.

Mission Creek is the largest stream in Santa Barbara and is one of only a handful of creeks in this area that still supports steelhead. Currently, however, steelhead migration is blocked by a .75 mile-long concrete channel. Providing passage and improved habitat in the lower reaches of Mission Creek will help ensure the survival of this species and will benefit our entire community, which treasures its creeks.

EDC will continue to participate in the Lower Mission Creek 206 Project and to provide support and assistance to the Corps and the City so that our common goal of restoring fish passage and habitat conditions in Lower Mission Creek will be fulfilled.

Sincerely,


 Brian Trautwein
 Environmental Analyst



906 Garden Street
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 Phone (805) 963-1622
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 edc@rain.org

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 edcmal@west.net



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

FEB 26 2003

In reply refer to:
151422SWR03PR8810:SCG

Shannon H. Snider
Environmental Coordinator
U.S. Army Corps of Engineers
Los Angeles District
P.O. Box 532711
Los Angeles, California 90053-2325

Dear Ms. Snider:

The National Marine Fisheries Service (NOAA Fisheries) has reviewed the Army Corps of Engineers' (Corps) draft Preliminary Restoration Plan for the Lower Mission Creek 206 Project (PRP). The project consists of modifying two sections of concrete-lined channel in Mission Creek to facilitate upstream migration of endangered Southern California steelhead (*Oncorhynchus mykiss*), and improving the riparian habitat on the upper banks. NOAA Fisheries strongly supports this project since it addresses the first major impassable barriers to upstream steelhead migration on Mission Creek, and represents a major first step in restoring the steelhead population to this watershed. The two concrete-lined sections are currently blocking steelhead access to 88% of the Mission Creek watershed, one of the largest coastal watersheds in Santa Barbara County. NOAA Fisheries encourages the Corps to continue funding and support for all phases of this project and looks forward to working with the Corps to see its completion and success.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator





Santa Barbara County Flood Control & Water Conservation District and Water Agency

123 E. Anapamu Street, Santa Barbara, California 93101
(805) 568-3440 Fax: (805) 568-3434
Web: <http://www.countyofsb.org/pwd/water>

Phillip M. Demery
Public Works Director

Thomas D. Fayram
Deputy Public Works Director

February 11, 2003

Shannon Dellaquila
Environmental Branch
U.S. Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053

Re: Lower Mission Creek 206 Project (Santa Barbara)

Dear Ms. Dellaquila:

The Santa Barbara County Flood Control District (District) has participated in planning efforts with the Corps of Engineers (Corps) for over a decade to improve flood control for the City of Santa Barbara. Those planning efforts have identified opportunities to enhance the environment as well protect the City from flooding.

Several sections of the creek have been improved to convey flood flows but are considered impediments to fish passage. The District encourages the Corps to take advantage of the opportunities the 206 program provides to improve fish passage on Lower Mission Creek. District staff has reviewed the Preliminary Restoration Plan and concurs with its conclusions and recommendations. The District looks forward to working with the Corps on the Detailed Project Report and future implementation of the Lower Mission Creek 206 Project.

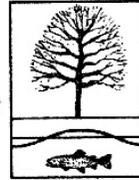
Sincerely,

A handwritten signature in blue ink that reads "Karl Treiberg".

Karl Treiberg
Environmental Planner, Sr.

SANTA BARBARA URBAN CREEKS COUNCIL

P.O. Box 1083, Carpinteria, CA 93014 (805) 968-3000



February 7, 2003

Ms. Shannon Dellaquila
Environmental Branch
U.S. Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053

RE: Lower Mission Creek 206 Project (Santa Barbara)

Dear Ms. Dellaquila,

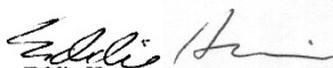
The Santa Barbara Urban Creeks Council is a non-profit organization whose mission includes preservation, protection and restoration of natural and urban streams. We have been active on the south coast of Santa Barbara County for 13 years, and we have a membership of over 3000 people. We have worked with local agencies and other groups on numerous projects, programs, and studies to enhance Mission Creek as habitat that supports native species including steelhead trout. Facilitating passage of anadromous fish to their historic spawning grounds has long been a goal of our organization.

The Urban Creeks Council supports efforts to enhance the habitat of Mission Creek and to facilitate fish passage through the concrete channels in the lower watershed. We strongly encourage the U.S. Army Corps of Engineers to provide funding and continue to work with the City of Santa Barbara to implement as a high priority the **Lower Mission Creek 206 Project**.

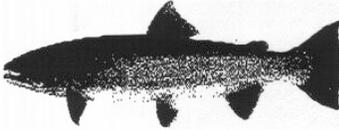
Mission Creek is one of the few urban streams in southern California that still supports steelhead. Resident rainbow /steelhead trout are still present in the mid to upper reaches of the watershed and steelhead still attempt to migrate from the ocean and spawn. Providing safe passage and improved habitat in the lower reaches of Mission Creek will ensure the survival of this and other species.

The Santa Barbara Urban Creeks Council wishes to participate in the Lower Mission Creek 206 Project and will lend our support to ensuring that Mission Creek is returned to a condition that gives native fish access to all parts of their habitat.

Sincerely,


Eddie Harris
Vice President

cc: South Coast Watershed Alliance
Environmental Defense Center



Southern California Steelhead Coalition

5436 Westview Court
Westlake Village, CA 91362
(818) 865-2888
www.socalsteelhead.org

COALITION MEMBERS

American Whitewater Affiliation
California Trout
Center for Biological Diversity
Clean Up Rincon Effluent
Conception Coast Project
Conejo Valley Flyfishers
Ecology Center of Southern California
Endangered Habitats League
Environmental Defense Center
Friends of the Los Angeles River
Friends of the River
Friends of the Santa Clara River
Friends of the Ventura River
Golden State Fly Casters
Heal the Bay
Keep the Sespe Wild Committee
RCD Santa Monica Mountains
National Audubon Society
(Buena Vista Chapter)
National Audubon Society
(Palomar Chapter)
Natural Resources Defense Council Pacific
Coast Federation of
Fishermen's Associations
San Diego Trout
Santa Barbara SEA
Santa Monica Mountains Conservancy Sierra
Club (Angeles Chapter)
Sierra Club (San Diego Chapter)
Sierra Pacific Fly Fishers
Surfrider Foundation
Surfrider Foundation (Ventura Chapter)
The Audubon Center
Trout Unlimited
Wilderness Fly Fishers

MANAGEMENT COMMITTEE

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Vice Chairman
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Howard Kern (Trout Unlimited)
At Large Members
Bo Meyer (Wilderness Fly Fishers)
Kris Schmidt (Sierra Club)
David Gottlieb (RCD, Santa Monica Mts.)
John Buse (Environmental Defense Center)

Via Facsimile (One [1] Page)

February 18, 2003

Ruth Villalobos, Planning Division Chief
U. S. Army Corps of Engineers, Los Angeles District
P. O. Box 532711
Los Angeles, CA 90053-2325

Attention: **Shannon Snider Dellaquila**, Ecosystems Planning Section

Subject: Section 206 Study, Mission Creek Concrete Channel Fish Passage

Dear Ms. Villalobos:

Southern California Steelhead Coalition, which represents over 225,000 Californians in our member organizations, is pleased to support the efforts of the Corps of Engineers, City of Santa Barbara, and other project partners in the preparation of a *Preliminary Restoration Plan* for fish passage through the 0.74-mile long trapezoidal concrete channel at Mission Creek in downtown Santa Barbara, California.

An analysis completed last summer by Conception Coast Project, one of our Coalition members, ranked Mission Creek as the fifth highest priority for endangered steelhead trout recovery out of the 24 watersheds in southern Santa Barbara County. This conclusion was based on the quality of the upstream spawning and rearing habitat, public education value of a healthy or recovering steelhead stream in this large coastal city, and potential for significant habitat restoration by providing fish passage through the concrete channel, currently a severe migration barrier and likely the biggest obstacle to steelhead recovery in the Mission Creek watershed.

The aquatic ecosystem restoration plan for Mission Creek also will contribute substantially to the growing science and engineering of fish passage designs and constructions in long flood control channels. The results will apply immediately to steelhead recovery efforts in similar situations throughout southern California, including nearby at "new" San Jose Creek in Goleta.

We commend the Corps for advancing this project so quickly and pulling together the large and diverse project team that formed only last December. For further coordination on this project, please continue to work directly with David Pritchett, Program Coordinator for Southern California Steelhead Coalition. He can be contacted at telephone 805-403-8830 and email dapritch@cox.net.

Thanks for the opportunity to comment on this important project.

Sincerely,

Jim Edmondson, Coalition Chairman